WHAT IS CLAIMED IS:

1. In a network supporting packet multicasting from a sender into the
network, where hosts join and leave a multicast group by sending join and leave
messages, respectively, to an access device in the network, an improvement comprising:
   a plurality of layers, wherein a layer is a logical channel that carries packets for the
      multicast group;
   logic for distributing multicast traffic from the sender over the plurality of layers
      according to a sending rate associated with each of the plurality of layers;
   logic for accepting join and leave messages at the access device from the hosts,
      wherein the join and leave messages are associated with one or more layers of
      the plurality of layers; and
   logic for reducing the aggregate sending rate of the plurality of layers over time.

2. The network of claim 1 further comprising logic for raising the sending
rate of an unused layer.

3. In a network supporting packet multicasting from a sender into the
network, where hosts join and leave a multicast group by sending join and leave
messages, respectively, to an access device in the network, a method comprising the steps
of:
   accepting multicast join messages at the access device, wherein a join message
      indicates that a host beyond an interface to the access device requests
      membership in a layer, where a layer is a logical channel over which packets are
      multicast to hosts that are members of a multicast group for the layer;
   transmitting multicast packets to a plurality of layers, wherein multicast packets are
      transmitted by the sender on a given layer at a rate approximately equal to a
      sending rate associated with the layer;
   accepting multicast leave messages at an access device from hosts, wherein a leave
      message indicates that a host requests removal from a layer indicated in the leave
      message; and
   reducing the aggregate sending rates for each of the layers over time, thereby
      reducing a reception rate of a host that is joined to a fixed set of layers.

Sub A⁵

1   4. The method of claim 3, further comprising a step of offsetting a

2   reduced aggregate reception rate at a host due to a reduced aggregate sending rate at the

3   sender by the host joining additional layers, if a reception rate at the host is to be

4   maintained.

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